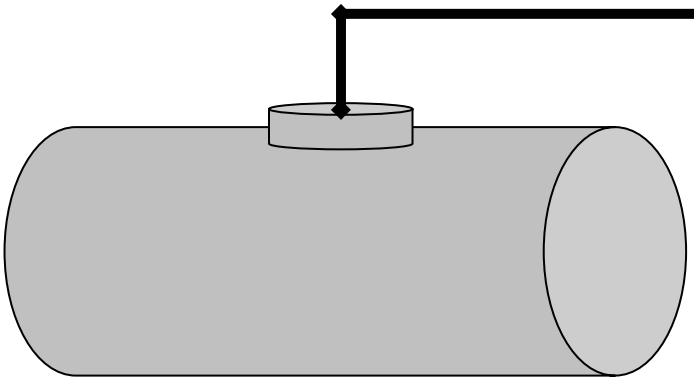
Plain Talk on Motor Fuel Tanks

An Operator's Guide to Maine's Underground Storage Tank Rules



July 2003

Maine Department of Environmental Protection

This manual belongs to

Your Name: _____

Your Facility Name: _____

Your Location: _____

Facility Registration #: _____

Disclaimer: This guide is intended only as "plain English" to aid UST owners and operators in understanding and implementing Maine's regulatory requirements for underground oil storage tanks. It is not intended to supplement or replace any statutory or regulatory requirements, and does not create any enforceable right at law or equity. In the event that any inadvertent conflict between this guide and Maine's statutes and regulations exists, the statutes and regulations shall control.

This document was prepared for the State of Maine by

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Before you begin

Purpose

This guide is for people who own or operate underground tanks at gas stations, convenience stores or vehicle fueling centers. This includes **motor fuel tanks** and **waste oil tanks**.

The State of Maine recognizes that you have spent a lot of time, effort and money to comply with underground oil storage tank rules. The State also understands that the rules can be complicated and challenging to read.

This manual is designed to help you understand Maine's tank rules in simple, easy to read language.

But the rules vary, depending on the type of tank equipment you have. For example, the rules on leak detection will depend on how old your system is, and whether the tank and piping are double-walled. Once you know what you have, you can read the parts of this manual that apply to you and skip the rest.

The main purpose of this manual is to help guide you through the tank rules with as little confusion as possible. This will help you have a safe and reliable fuel management system.

Why read this Guide?

- Save time
- Save money
- Avoid hassles
- Prevent little problems from turning into big ones

Q. Why read this manual?

Didn't you already install all the necessary "bells and whistles" when you upgraded? What else is left to do?

A. Because your underground tank system can still leak.

You need to know how to prevent this. The "bells and whistles" are likely to fail if you don't properly maintain and service them.

How to read this guide

Step 1 Read the Basics

Get started with program basics: Read Chapter 1.

Step 2 Learn the Rules

Chapter 2 starts out with two different sections on leak detection: Figure out which section applies to you and read:

- **Newer motor fuel tanks**—those installed after September 16, 1991.
- **Older motor fuel tanks**—those installed before September 16, 1991.

Then read the rest of chapter.

Step 3 Get the Organization

Read the remaining chapters to get the complete picture:

- Inspections—Chapter 3
- Improvements—Chapter 4
- Paperwork—Chapter 5

Where can I find out more about:

Heating Oil Tanks..... See DEP's guide "Plain Talk on Heating Oil Tanks"

Heavy Oil Tanks.....

Field Constructed Tanks.....

Airport Hydrant Tanks.....

Call DEP for assistance at 207/ 287-2651

Symbols

The following symbols are provided to help the reader understand certain important concepts. Look for these symbols throughout this document.

Checklists Checklists are provided to help the reader simplify particular tank rules.

Problems Watch out for these common problems. These are real life problems in Maine and show how to NOT do something.

Compliance Issues Maine's DEP pays particular attention to certain compliance issues that are critical in protecting human health and the environment. Know what an inspector is looking for.

Success Stories There is always a better way to do something. Get good advice by learning about real life experiences where UST operators met or exceeded UST rules.

Understanding Jargon

Every effort has been made to use layman's terms in this guide so everyone can understand the requirements. Sometimes, however, you may not be familiar with certain terms.

Each section in this guide will start with a box that contains terms you should be familiar with in the upcoming discussion. If you know these terms you will better understand the rules.

Jargon:
(ˈjar-gin) words or expressions used by a particular group or profession.

See a word or term you don't understand? Go to Definitions on pages 11-14.

Chapter 1. The Big Picture

In this chapter you will learn about the basics of the underground tank program: the goals of good tank management, the basic parts that make up a whole tank system, who does what in the world of tank systems, and important tank terms.

Underground
Storage
Tank

Terms to know in this chapter

- Contamination
- Drinking water supply
- Groundwater
- Underground storage tank or UST

Petroleum contamination from leaking underground storage tanks can pose a significant threat to Maine's drinking water supplies. Since 1990, over 600 leaking underground storage tank sites have contaminated ground water and drinking water supplies in Maine.

Leaking UST systems can

- Make drinking water supplies unfit for human consumption.
- Create a serious fire hazard.
- De-value land and stop real estate sales.
- Cause groundwater pollution that can move onto neighboring properties.
- Spread the chemical Benzene, a known carcinogen, into the environment.
- Seep into rivers and lakes.

Your job as an operator

is to safely and properly manage your underground storage tank system by preventing leaks, spills and rust.

Basic Rules

Maine's UST rules were created for the simple purpose of helping you keep fuel on the *inside* of your tanks and piping, rather than *outside* of it.

This section will help you understand the most basic requirements to operate a UST system in Maine. Later, you will learn more detailed requirements for your particular tank.

Look for these signs to guide you in Chapter 2.

Was your tank installed before or after September 16, 1991?

You need to know this in order to understand which rules apply to you.

Key Concepts

Detecting leaks

Doing maintenance

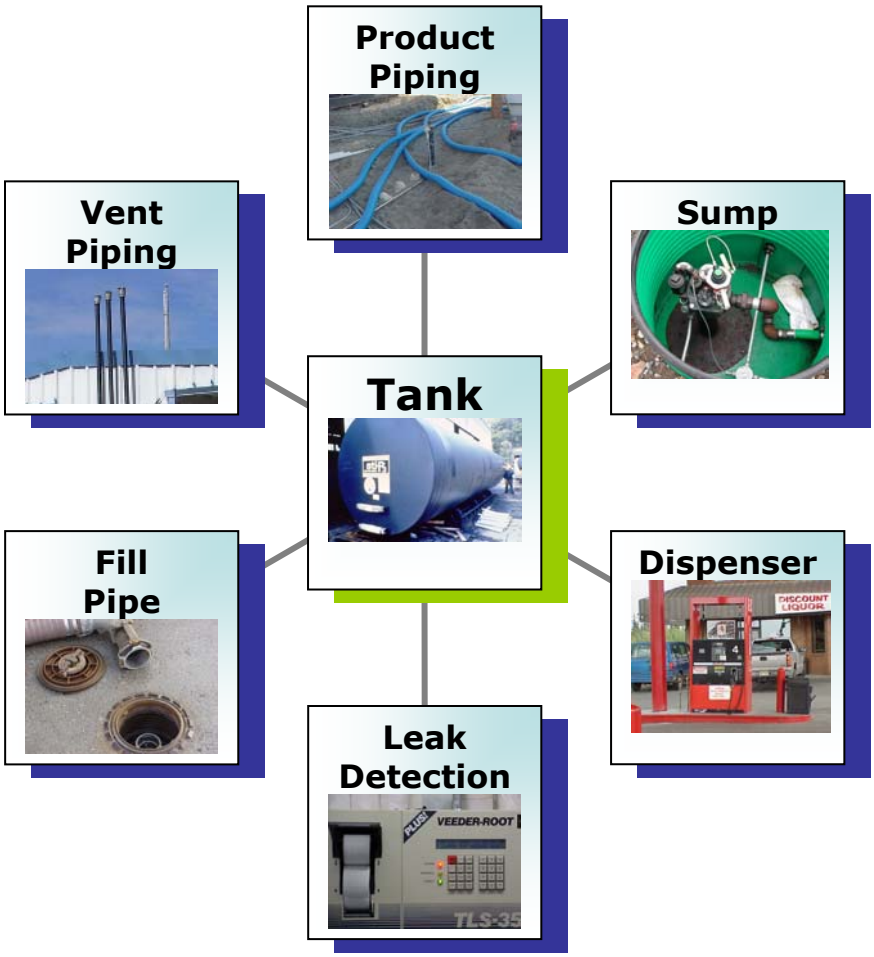
Preventing overfills

Keeping good records

Stopping corrosion

Responding to problems

Parts of a Tank System



Parts

Tank. Underground container used to store petroleum.

Product Piping. Part of the system used to move petroleum from the tank to the dispenser.

Sump. Large underground bucket used to house piping joints, sensors, pumps and other related equipment. Used in most pressurized piping systems.

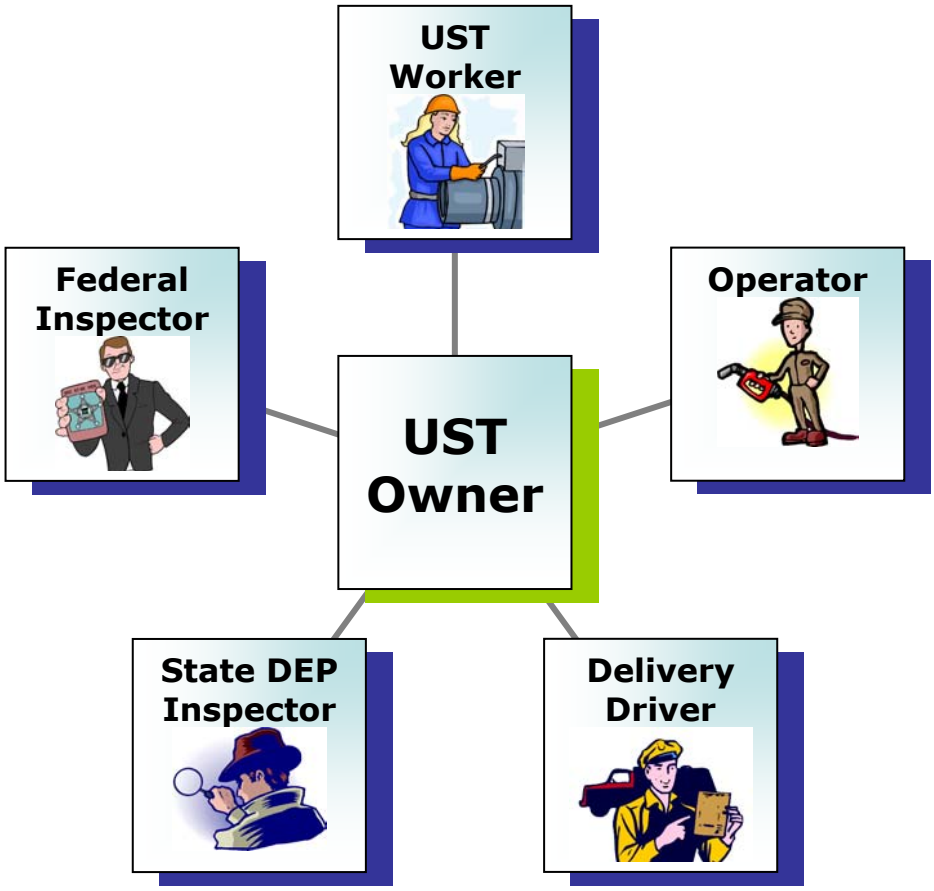
Dispenser. Device used to pump product into a vehicle. Can operate by pressure or suction.

Leak Detection. System used to look for leaks on a periodic or continuous basis. Many options available.

Fill Pipe. Vertical underground pipe where fuel is put into the tank.

Vent Piping. Piping used to vent tank so pressure does not build up into explosion hazard.

Who does what



People

Owner. The person usually responsible for registration and other administrative duties.

Operator. The person in charge of day-to-day operations, usually on-site.

Delivery Driver. Person putting petroleum into the tank.

Federal (EPA) Inspector. Person who makes sure a UST system meets federal requirements.

State (DEP) Inspector. Person who makes sure UST system meets State of Maine requirements.

UST Worker. Licensed professional who installs, closes, repairs, upgrades or inspects a UST system.

Definitions

Automatic line leak detector or ALLD -a device used to continuously look for large leaks on pressurized piping.

Automatic Tank Gauge or ATG - a device used to check for leaks in a tank or measure fuel levels.

Cathodically protected - using a method to prevent the corrosion of a metal surface.

Cathodic protection monitoring – measuring electric current from underground metal to figure out if the metal is being protected from corrosion.

Certified inspector – a person who is certified by the State of Maine to perform inspection on a UST system.

Certified installer – a person who is certified by the State of Maine to inspect, install, upgrade, repair, and remove a UST system.

Corrosion expert - a person who is certified and qualified to perform corrosion control work on buried metal piping and tanks.

Continuous monitoring - using an automated device to continuously look for leaks which show an obvious loss of oil, or shows a hole in the primary wall of the tank or piping.

Crash valve – Device beneath a dispenser that rapidly shuts off fuel flow if the dispenser is damaged.

Department- the Maine Department of Environmental Protection or DEP, the state agency that regulates underground oil tanks.

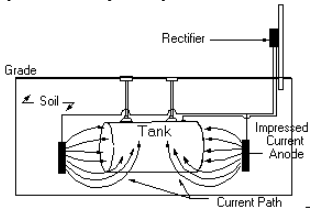
Discharge - any spilling, leaking, pumping, pouring, emitting, escaping, emptying, or dumping of oil.

Free product - liquid oil or petroleum.

Heavy oil - an oil that must be heated during storage, including #5 and #6 oils.

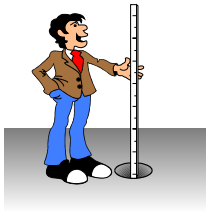
Heating oil – an oil consumed on premises where stored and used for heating purposes only.

Impressed current cathodic protection system - a corrosion protection system that uses direct current supplied by a power source.



Interstitial monitoring- the practice of checking between the walls of a double wall tank or piping system to look for holes in either wall.

Inventory reconciliation – sometimes called daily inventory and monthly reconciliation. The accounting practices for oil stock control, including a monthly summary of inventory results.



Leak - a loss or gain of one-tenth of one gallon (0.1 gallons) or more per hour as determined by a tightness test.

Motor fuel - oil that is motor gasoline, aviation gasoline, #1 or #2 diesel fuel or any grade of gasohol typically used in the operation of a vehicle or motor engine.

Occurrence - a contamination incident or prohibited discharge from a tank or piping at an underground oil storage facility.

Operator - a person who is in control of and responsible for the daily operation of a facility or tank.

Pressurized piping – Piping under positive pressure in a UST system where fuel is pushed into the dispenser from a pump inside the tank.

Safe suction – Suction piping that, in the event of a leak, will cause fuel to drain back into the tank rather than the environment.

Secondary containment - a double-walled tank or piping system that is designed to detect and contain oil in the outer wall, should the inner wall fail.

Site assessment – Soil and water sampling done to determine if there is oil pollution around a tank or facility.

Statistical inventory analysis or SIA - a method of analyzing daily inventory records in order to detect a very small leak.

Stage I vapor recovery – the capturing of fuel vapors during delivery to an underground tank.

Stage II vapor recovery – the capturing of fuel vapors during vehicle fueling.

Suction piping – piping under negative pressure in a UST system where fuel is drawn from a pump in the dispenser above the tank.

Sump – large, bucket-like container that houses the pump, portions of the piping, sensors and electrical wires and traps product leaks from double-wall piping.

Underground oil storage facility, or "facility", -any underground oil storage tank or tanks, together with associated piping and dispensing facilities located under any land at a single location and used, or intended to be used, for the storage or supply of oil. Underground oil storage facility also includes piping located under any land at a single location associated with above ground storage tanks and containing 10 percent or more of the facility's volume capacity.

Underground oil storage tank, or "tank", - any container, 10% or more below ground and which is used, or intended to be used, for the storage of oil. The term does not include certain tanks in vaults; propane tanks, underground oil water separators, storm water and other catch basins, and hydraulic lift tanks.

Vapor recovery – capturing gasoline fumes during delivery and returning them to the original container (the underground tank or the tanker truck) in order to reduce air pollution.

Waste oil - a petroleum based oil which, through use or handling, has become unsuitable for its original purpose due to the presence of impurities or loss of original properties. It must have sufficient liquid content to be free flowing.